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**United States Patent** (19)

Martin et al.

[11] Patent Number: **5,472,417**[45] Date of Patent: **Dec. 5, 1995**[54] **TRIPLE LUMEN CATHETER**

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[73] Assignee: Vas-Cath Incorporated, Mississauga, Canada

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**Related U.S. Application Data**

[63] Continuation of Ser. No. 785,351, Oct. 30, 1991, abandoned, which is a continuation of Ser. No. 288,364, Dec. 22, 1988, Pat. No. 5,195,962.

[30] **Foreign Application Priority Data**

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[58] Field of Search ..... 138/111-117; 604/280-284, 604/264, 43, 164-169, 4-7, 101, 102

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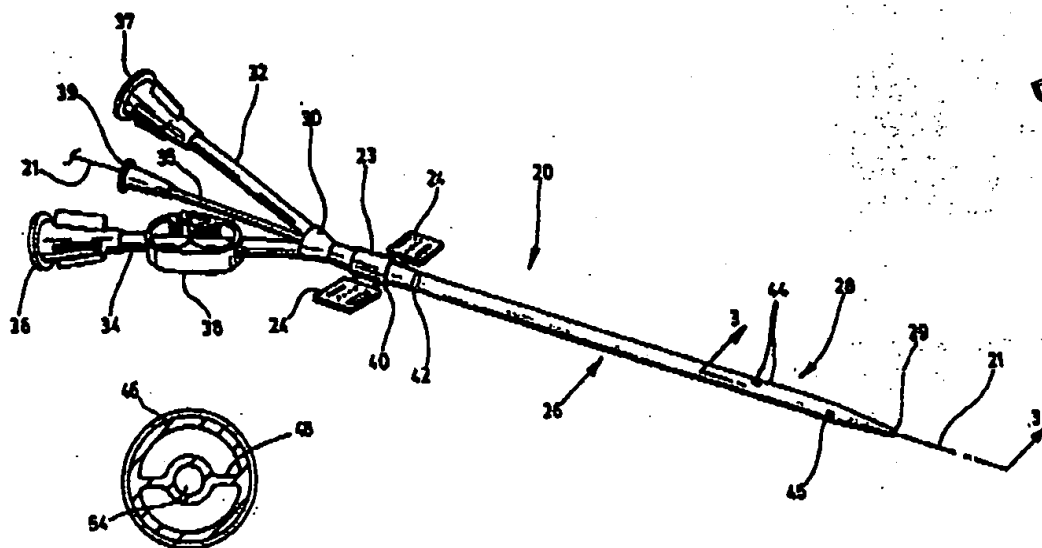
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[57] **ABSTRACT**

The invention provides a triple lumen catheter for use in treatment of humans by inserting the catheter into a blood vessel over a Seldinger guidewire, and using the catheter to extract blood at a selected location in the blood vessel and to return treated blood downstream of the location after treatment. The catheter includes an elongate body and a tip at the distal end of the body. The body has an outer wall and an integral internal septum combining with the outer wall to define a pair of similar C-shaped lumens extending longitudinally in the body. The outer wall of the body defines at least one intake aperture and at least one return aperture and the intake aperture is spaced longitudinally from the tip and from the return aperture with the return aperture being nearer the tip than is the intake lumen. The septum defines a third lumen smaller than the C-shaped lumens and proportioned to slidably receive the guidewire during insertion and to provide a path for the medicament after insertion. The third lumen terminates at the longitudinal extremity of the tip. A connector is attached to the proximal end of the body and a pair of tubes are attached to the connector to carry blood from the intake lumen and to return treated blood to the return lumen. A third smaller tube is attached to the connector and coupled to receive the guidewire during insertion and to provide access for intravenous medicament through the third lumen during use.

1 Claim, 3 Drawing Sheets



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